

Work Order ID 66661

Page 1

Wednesday, February 23, 2011 1:12:42 PM

Item ID: D135-751-011

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube Installation

Start Date: 2/23/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/4/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: CL

Date: 11/02/23 Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3507

Rev C

0.00

100



DOCUMENT CONTROL

0.00

DC

Document Control

Memo

Photocopy bluefile & type labels per PPP D135-751-011

CHG001

CL 11/06/23

B66661

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

120

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Cut Aft end as per dwg D3507

2-Deburr ends

3-Drill Aft & Fwd Cap holes using DT8678 & DT8901

4-Locate DT8870 & Drill Ground wire hole on top of Tube.

6-Locate DT8870 with #30 cleco in Ground wire hole, then Pilot Drill all X-Bolt holes using #30" drill. ****DO NOT OPEN AFT CAP HOLES****

7-Open crossbolt holes to 0.3125" (3 per side). Drill pilot holes for wearplates using Dt8868, Use DT8892 FOR REAR WEARPLATE HOLES.

8-Open six rear wearplate holes using DT8892. Open holes to 0.297"

9-Open Aft & Fwd Cap holes using .208" drill.

10-Bore out aft end of tube as per Dwg D3507 & Detail "B"

11-Open ground wire hole .297" section E-E

12- Section G-G holes must be laid out manually, open to #30.

13-Deburr holes.

1 0 BENJOZ/N

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00		8 u/03/14		10			
150 HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00				1		3 4/03/15	
160 QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							11-3-15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

170

0.00



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Open X-Bolt holes to .375"(2Places) & .500"(2Places) as per Dwg D3507 and Detail "F"

2-Counter Sink X-BOLT holes as per Dwg D3507

3-Deburr and blow out chips from inside of tube.

4-Bond web as per Dwg D3507 & QSI 015

A/R 241 Sike Flex Batch: 116040

Exp Date: 11/09/10
start time: 3:00
end time: 3:45

5-Weld x-bolt (D3504-1/-3)spacers as per Dwg D3507 and Detail C-C & D-D.

A/R AL ROD Batch: 1112860

B/C 11/06/02

6-Grind welds flush

7-Drill Rivet Holes as per Dwg D3507 Using Dt8871A&B

8-Deburr Rivet holes.

P10 →

B 11/03/18

B 11/03/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D135-751-011 PAR #: NA Fault Category: Landing Gear NCR: Yes No DQA: NA Date: 11/06/27
11-685 Resolution: Re work Disposition: Re work QA: N/C Closed: NA Date: 11/06/28

NCR: <u>66661</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>11/03/15</u>	<u>170.1</u>	employee Drilled the .375" hole (3rd hole from AAD .500". R.C. employee was not paying attention is drilling other holes. .375" hole is in between .500" hole.	<u>CP</u> <u>11/03/16</u> <u>QS/042</u>	INSTALL $\phi 0.500$ ID. X BOLT SPACER $\phi 0.277$ I.D. X BOLT SPACER 6061-T6 OR 6061-T62 TUBING OR ROUND BAR BIN <u>114488</u>	<u>BE</u> <u>11/06/02</u>	<u>CP</u> <u>11/06/22</u>	<u>12.05.20</u> <u>QS/042</u>	<u>11/03/15</u>
								<u>11/03/15</u>

NOTE: Date & initial all entries

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Cust Item ID:

Required Date: 3/4/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 QC Quality Control	QC10- Inspect visual per QSI004- ground welds Memo	0.00 0.00							
190 Skidtubes Skidtubes	Skidtubes Memo 1-Rivet D3506-1/-3 as per Dwg D3507.	0.00 0.00				1			B 11/06/22
200 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							(FU)

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

IX ~~Ø~~ M/L 11/06/22

220

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: 8:00

OVEN TEMPERATURE: 320 °F

FINISH TIME: 8:30

IX ~~Ø~~ M/L 11/06/23

230

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

I ~~Ø~~ M/L 11/06/23

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Cust Item ID:

Required Date: 3/4/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

240

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

Install Wearplate & Ground Wire inserts as per Dwg D3507.

1 0 HU 6/06/23

250

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

Inspect Inserts

u/AS

W/O:		WORK ORDER CHANGES					
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Customer:

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
260	HandFinishing	0.00							
	HandFinish								
Hand Finishing	<p>Memo</p> <p>1-Inspect for Foreign objects</p> <p>2-Install Fwd & Aft caps as per Dwg D3507 And Detail "A" & "B"</p> <p>A/R 241 Sika Flex Batch: <u>M117516</u> Exp Date: <u>01/12</u></p> <p>3-Install Wearplates as per Dwg D3507 , Note:Install (1) Bolt and (1) washer on Ground Wire insert on top of tube Do not Install Scews where indicated on Dwg(Note #6)</p> <p>A/R 241 Sika Flex Batch: <u>M117516</u> Exp Date: <u>01/12</u></p> <p>4-Install Plug assemblys with lubricate as per Dwg D3507. Batch: <u>A/114189</u></p> <p>5- Wing Walk as per Dwg D3507 and QSI 005 4.4 Batch: <u>M1178109</u></p>	0.00							
270	QC5- Inspect part completeness to step on W/O	0.00							
	QC								
Quality Control	Memo	0.00							

1 0 M 1106/23

Sudo 6/23

0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

280

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

Run/E/23 (1)

290

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

8 wks/23

300

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D135-751-011

Location: _____

PPP Rev: _____

B

Run/E/23 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

310

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/6/23

mf
11-06-23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Picklist Print

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Work Order ID: 66661



Parent Item: D135-751-011



Parent Item Name: Skidtube Installation

Start Date: 2/23/2011

Required Date: 3/4/2011

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:A 06-06-21 New Issue JLM
 IPP Rev:B 06-12-18 As per Rev B JLM
 IPP Rev:C 07-12-11 ECN 1036 as per revB DD
 IPP Rev D 08.11.04 Added DT9431 to sequence 5 EC verified DD
 IPP Rev E 10.02.22 per pAR 09-043 EC verified by: DD IPP Rev:F
 10.06.09 remove seq110 DD verf:EC IPP Rev G 10.09.17
 added D3507-1-bent EC verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D3507-1-BENT

Manufactured

No

120

Each

2.0000

1

1



Skidtube Assembly EC135

Location

Loc Qty

Loc Code

LG

2

62291

1

62292

1

BE 11/03/11
67132

D3504-1

Manufactured

No

170

Each

18.0000

2

2



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

18

53742

18

BE 4/06/02

D3504-3

Manufactured

No

170

Each

30.0000

1

1



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

30

31232

10

53743

20

See last pages MF 11-06-23

M6061T6R0.500

283

W/O:		WORK ORDER CHANGES					
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Parent Item Name: Skidtube Installation

Start Date: 2/23/2011

Required Date: 3/4/2011

Start Qty: 1.00

Required Qty: 1.00

D3504-5 Manufactured No

170 Each

18.0000

2 2



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

18

36181

2

53744

16

D3505-1 Manufactured No

170 Each

0.0000

1 1



Web

D3506-1 Manufactured No

190 Each

70.0000

4 4



Doubler

Location

Loc Qty

Loc Code

ST066

70

51789

70

D3506-3 Manufactured No

190 Each

66.0000

2 2



Doubler

Location

Loc Qty

Loc Code

ST066

66

51790

66

MS20601-AD4W3 Purchased No

190 Each

3,523.000

12 12



Rivet

Location

Loc Qty

Loc Code

ST321

3523

114538

3523

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Parent Item Name: Skidtube Installation

Start Date: 2/23/2011

Required Date: 3/4/2011

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130 Purchased No

240 Each

1,814.000 38 38



Insert



11106123

Location

Loc Qty

Loc Code

FP

21

1117717

x38

115079

21

ST282

1793

111529

32

113238

17

115502

500

115581

244

116800

1000

ALS4-1032-225 Purchased No

260 Each

4,015.000 1 1



Insert



11106123

Location

Loc Qty

Loc Code

PK011

4015

11117717

x1

110768

4015

AN3C4A Purchased No

260 Each

2,296.000 31 31



BOLT



11106123

Location

Loc Qty

Loc Code

ST350

2296

115300

25

116075

337

116704

734

116924

1200

1117094

x31

W/O:		WORK ORDER CHANGES					
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Start Date: 2/23/2011

Required Date: 3/4/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No 260 Each 1,024.000 2 2
Bolt
M 117508 1106123

Location	Loc Qty	Loc Code
ST350	1024	M 117508
107862	68	
108302	34	
114330	11	
115015	13	
115371	4	
115422	100	
115835	194	
116419	500	
116549	100	

AN526C1032R10 Purchased No 260 Each 402.0000 2 2
Screw
M 1106127

Location	Loc Qty	Loc Code
ST327	100	
114494	100	
ST328	302	
108062	126	
110049	176	

AN960C10L NAS1149C0332 Purchased No 260 Each 127.0000 33 33
R
M 1106127
washer

Location	Loc Qty	Loc Code
ST245	127	
107534	59	M 117887
108246	68	K33

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, February 23, 2011 1:12:38 PM

Page 5

Work Order ID: 66661

Parent Item: D135-751-011

Parent Item Name: Skidtube Installation

Start Date: 2/23/2011

Required Date: 3/4/2011

Start Qty: 1.00

Required Qty: 1.00

D2965

Manufactured No

260

Each

35.0000

1

1



Cap, 105 Skidtube



u106123

Location

Loc Qty

Loc Code

FP4

35

52057

35

X1

D2965-3

Manufactured No

260

Each

7.0000

1

1



Cap



u106123

Location

Loc Qty

Loc Code

FP

7

50560

3

X1

52282

4

D3492-041

Manufactured No

260

Each

93.0000

4

4



Plug Assembly



u106123

Location

Loc Qty

Loc Code

FP013

93

59114

1

62210

3

63994

29

65068

60

B69819

vd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, February 23, 2011 1:12:38 PM

Page 6

Work Order ID: 66661

Parent Item: D135-751-011

Parent Item Name: Skidtube Installation

Start Date: 2/23/2011

Required Date: 3/4/2011

Start Qty: 1.00

Required Qty: 1.00

D3492-043

Manufactured No

260

Each

41.0000

4

4



Plug Assembly



u1

u106123

Location

Loc Qty

Loc Code

FP

2

1368252

x4

54682

2

FP013

39

59117

1

59190

4

63996

2

65070

32

D3492-047

Manufactured No

260

Each

37.0000

2

2



Plug Assembly



u1

u106123

Location

Loc Qty

Loc Code

FP

37

28961

26

39722

11

x2

D3508-1

Manufactured No

260

Each

19.0000

1

1



Wearplate



u1

u106123

Location

Loc Qty

Loc Code

FP

5

42973

1

51261

4

FP-16

14

u1

61020

14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, February 23, 2011 1:12:39 PM

Page 7

Work Order ID: 66661

Parent Item: D135-751-011

Parent Item Name: Skidtube Installation

Start Date: 2/23/2011

Required Date: 3/4/2011

Start Qty: 1.00

Required Qty: 1.00

D3508-3 Manufactured No

260 Each

10.0000 1 1



Wearplate



Handwritten: 11/06/23

Location

Loc Qty

Loc Code

FP

1

38527

1

1367489

Handwritten: X1

FP21

9

62882

3

65192

6

D3508-5 Manufactured No

260 Each

5.0000 1 1



Wearplate



Handwritten: 11/06/22

Location

Loc Qty

Loc Code

FP

1

42251

1

FP21

4

51388

4

Handwritten: X1

D3508-7 Manufactured No

260 Each

3.0000 1 1



Wearplate



Handwritten: 11/06/22

Location

Loc Qty

Loc Code

FP

1

31198

1

FP21

2

60336

2

1367159

Handwritten: V1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, February 23, 2011 1:12:39 PM

Work Order ID: 66661

Parent Item: D135-751-011

Parent Item Name: Skidtube Installation

Start Date: 2/23/2011

Required Date: 3/4/2011

Start Qty: 1.00

Required Qty: 1.00

D3558-1 Manufactured No

260 Each

16.0000

1

1



Gasket



all u/06/23

Location

Loc Qty

Loc Code

FP

16

42533

1

50925

15

D3558-3 Manufactured No

260 Each

6.0000

1

1



Gasket



all u/06/23

Location

Loc Qty

Loc Code

FP

6

42253

1

55468

5

D3558-5 Manufactured No

260 Each

6.0000

1

1



Gasket



all u/06/23

Location

Loc Qty

Loc Code

FP

6

43244

1

50926

5

D3558-7 Manufactured No

260 Each

3.0000

1

1



Gasket



all u/06/23

Location

Loc Qty

Loc Code

FP

3

43245

1

50927

2

1367162

xl

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, February 23, 2011 1:12:39 PM

Page 9

Work Order ID: 66661

Parent Item: D135-751-011

Parent Item Name: Skidtube Installation

Start Date: 2/23/2011

Required Date: 3/4/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1611-007

Purchased

No

260

Each

440.0000

2

2



O-RING



24 1106123

Location

Loc Qty

Loc Code

FP

440

103697

440

22

NAS1611-010

Purchased

No

260

Each

309.0000

4

4



O-RING



24 1106123

Location

Loc Qty

Loc Code

FP

309

110715

100

110915

159

24

115589

50

NAS1611-013

Purchased

No

260

Each

248.0000

4

4



O-RING



24 1106123

Location

Loc Qty

Loc Code

FP

248

115460

100

11117291

24

115589

28

115812

20

116582

100

AN3C4A

Purchased

No

280

Each

2,296.000

8

8



BOLT



11117872

24 11117872

Location

Loc Qty

Loc Code

ST350

2296

115300

25

116075

337

116704

734

116924

1200

Wednesday, February 23, 2011 1:12:39 PM

Shop Packet Print

Page 9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 10

Wednesday, February 23, 2011 1:12:39 PM

Work Order ID: 66661

Parent Item: D135-751-011

Parent Item Name: Skidtube Installation

Start Date: 2/23/2011

Required Date: 3/4/2011

Start Qty: 1.00

Required Qty: 1.00

AN960C10L NAS1149C0332 Purchased No

280

Each

127.0000

8

8



washer



1117460

[Handwritten signature]

Location

Loc Qty

Loc Code

ST245

127

107534

59

108246

68

Manufactured No

280

Each

5.0000

2

2

D3512-1



Wearplate



70863 R11/8/23

Location

Loc Qty

Loc Code

ST500

5

63954

5

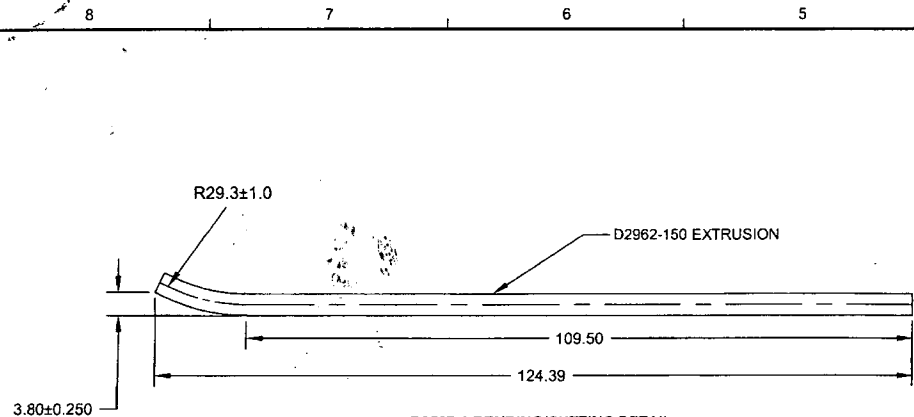
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

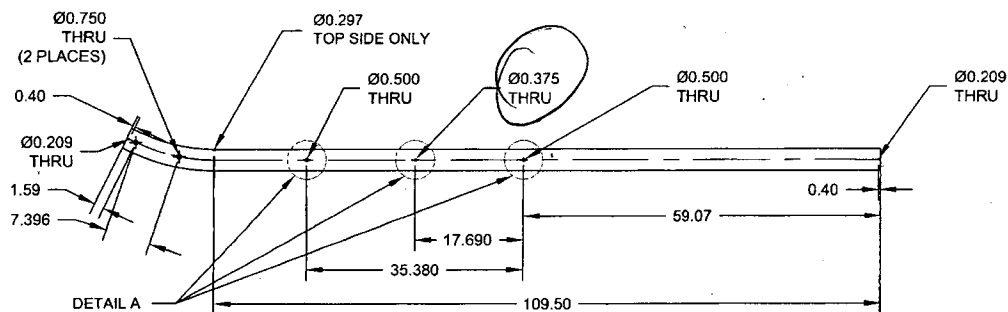
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

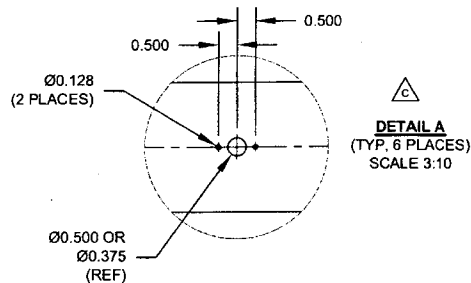
NOTE: Date & initial all entries



D3507-1 BENDING/CUTTING DETAIL



D3507-1 DRILLING DETAIL



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WITHOUT NOTICE
WORK ORDER
NO. 66661
CL11/02/23

Qty	Part Number	Description
X	D3507-041	SKIDTUBE ASSEMBLY
1	D2962-150	EXTRUSION
1	D2965	CAP
1	D2965-3	CAP
4	D3492-041	PLUG ASSEMBLY
4	D3492-043	PLUG ASSEMBLY
2	D3492-047	PLUG ASSEMBLY
2	D3504-1	CROSS BOLT SPACER
1	D3504-3	CROSS BOLT SPACER
2	D3504-5	CROSS BOLT SPACER
1	D3505-1	WEB
4	D3506-1	DOUBLER
2	D3506-3	DOUBLER
1	D3508-1	WEARPLATE
1	D3508-3	WEARPLATE
1	D3508-5	WEARPLATE
1	D3508-7	WEARPLATE
1	D3558-1	GASKET
1	D3558-3	GASKET
1	D3558-5	GASKET
1	D3558-7	GASKET
38	AELS-1032-130	INSERT
1	AELS-1032-225	INSERT
31	AN3C4A	BOLT
2	AN3C5A	BOLT
2	AN526C1032-10	SCREW
33	AN960C10L	WASHER
12	MS20601AD4W3	RIVET

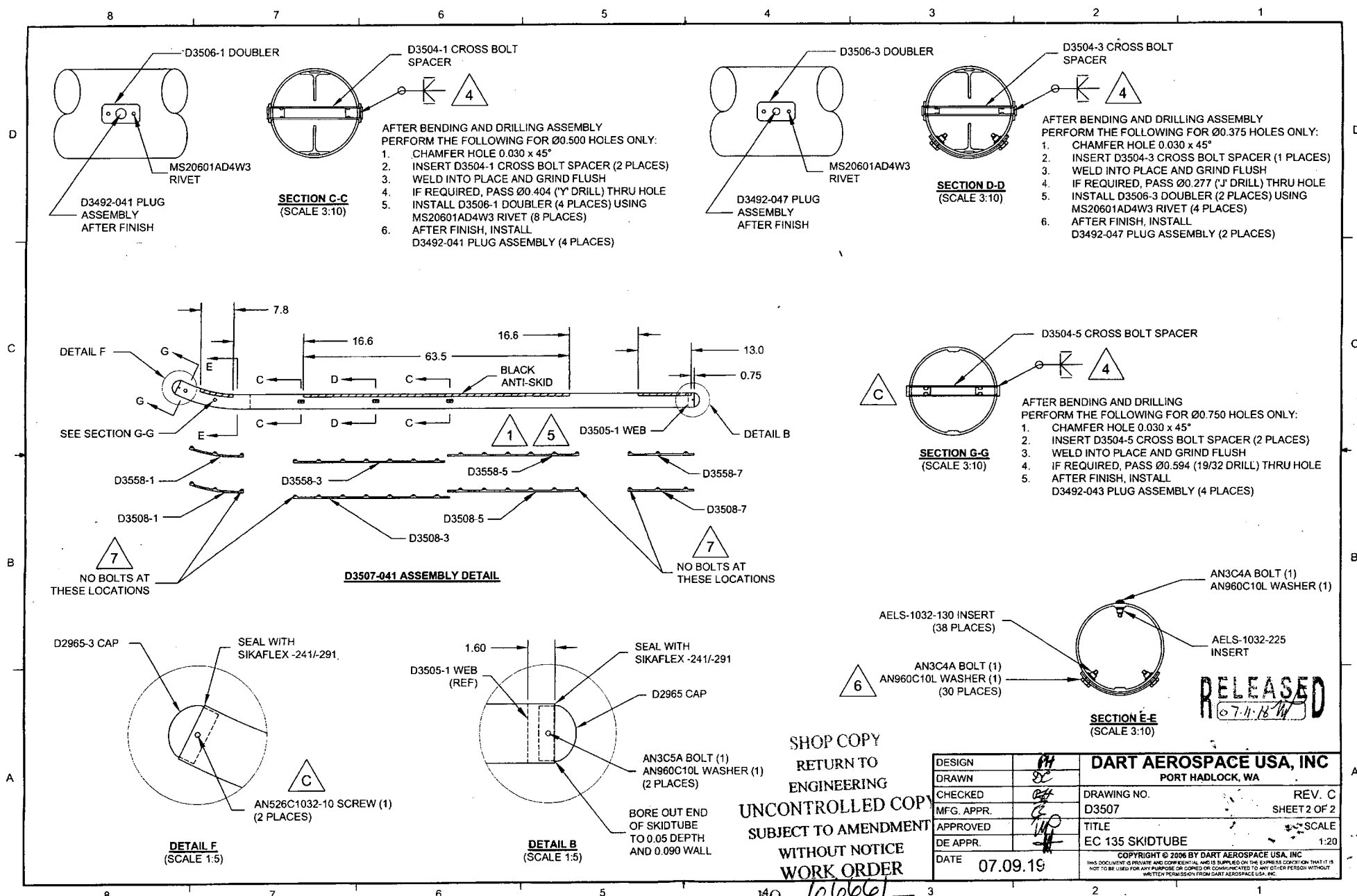
GENERAL NOTES:

- 1) FINISH:
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3505-1 WEB. POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3. ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4
- 2) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) DIMENSIONS: INCHES UNLESS OTHERWISE NOTED
- 4) WELDING TO BE DONE PER DART QSI 004
- 5) INSERT D3505-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING
- 6) USE DART DRILL TEMPLATE DT8868 TO LOCATE AND DRILL Ø0.297 HOLES (38 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION C-C (38 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/-291.
- 7) DO NOT INSTALL AN3C4A BOLTS AND AN960C10L WASHERS IN INDICATED LOCATIONS

C	ADD D3504-5, FOR SKID GEAR DEFLECTOR; CHANGE FWD CAP BOLT TO AN526C1032-10 SCREW	DC	07.09.19
B	ADD GASKET, CHANGE HARDWARE MATL	PH	06.11.01
A	NEW ISSUE	PH	06.04.21
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	JC		
CHECKED	EL		
MFG. APPR.	EL		
APPROVED	JP		
DE APPR.			
DATE	07.09.19		

DART AEROSPACE USA, INC
PORT HADLOCK, WA
DRAWING NO. D3507
REV. C
SHEET 1 OF 2
TITLE EC 135 SKIDTUBE
SCALE NTS
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RELEASED
07.11.14



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WORK ORDER

NO. 12666

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	PH	DRAWING NO.	REV. (
MFG. APPR.	SC	D3507	SHEET 2 OF
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	EC 135 SKIDTUBE	1:2
DATE 07.09.19		COPYRIGHT © 2006 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND ITS SUPPLY TO THE CUSTOMER CONTRACTOR THAT IT NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN CONSENT OF DART AEROSPACE USA, INC.	

Chris Provencal

From: David Shepherd <dshepherd@dartaero.com>
Sent: March 23, 2011 10:24 AM
To: 'Chris Provencal'
Cc: 'Mike Petsche'
Subject: RE: EC 135 skidtube NCR

Chris,

Your proposal to install a custom spacer in this hole is acceptable to me ... I assume you will enlarge the hole in the I-beam accordingly?

David

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Tuesday, March 22, 2011 9:58 AM
To: David Shepherd
Cc: Mike Petsche
Subject: FW: EC 135 skidtube NCR

David,

EC 135 skidtube sketch attached. The oversized crossbolt spacer is not installed yet.

-Chris

From: Dart Aerospace [mailto:hby.engineering@dartaero.com]
Sent: March 22, 2011 11:56 AM
To: CProvencal
Subject: Attached Image

Chris Provencal

From: David Shepherd <dshepherd@dartaero.com>
Sent: Wednesday, March 23, 2011 10:24 AM
To: 'Chris Provencal'
Cc: 'Mike Petsche'
Subject: RE: EC 135 skidtube NCR

Chris,

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David

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Tuesday, March 22, 2011 9:58 AM
To: David Shepherd
Cc: Mike Petsche
Subject: FW: EC 135 skidtube NCR

David,

EC 135 skidtube sketch attached. The oversized crossbolt spacer is not installed yet.

-Chris

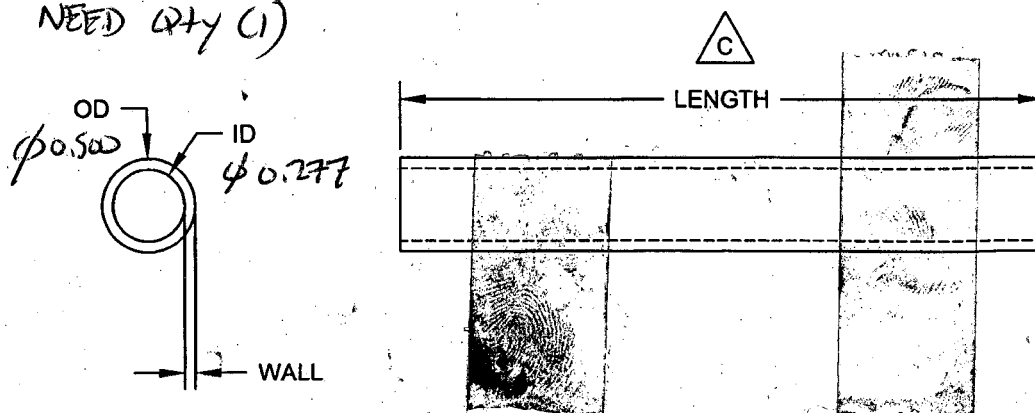
From: Dart Aerospace [mailto:hby.engineering@dartaero.com]
Sent: March 22, 2011 11:56 AM
To: CProvencal
Subject: Attached Image

SIMILAR TO D3504-3 except:

$\phi 0.500$ OD x $\phi 0.277$ ID x $3.475^{+0.030}_{-0.000}$ LONG

UP 11.03.16

NEED QTY (1)



B114488
P.A. 11/03/16

D3504-1/-3/-5 CROSS BOLT SPACER PARTS LIST

PART NUMBER	OD	WALL	LENGTH +0.030 -0.000	ID	MATERIAL SPEC	NOTE
D3504-1	0.500	0.049	3.475	0.402 (REF)	M6061T6T0.500W.049	SEE NOTE 1a)
D3504-3	0.375	0.049	3.475	0.277 (REF)	M6061T6T0.375W.049	SEE NOTE 1a)
D3504-5	0.750	0.080 (REF)	3.400	0.590	M6061T6R0.750	SEE NOTE 1b)

D3504-1/-3/-5 CROSS BOLT SPACER:

- 1) MATERIAL: a) 6061-T6 OR 6061-T62 TUBING
PER WW-T-700/6 OR AMS 4080 OR AMS 4082
OR QQ-A-200/8 OR QQ-A-225/8
(REF. DART SPEC. M6061T6TD.DDDW.TTT)
- b) 6061-T6 (OR 6061-T651/T6510/T6511/T62) ROUND BAR
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR
PER AMS-QQ-A-200/8 (OR AMS 4160)
(REF. DART SPEC. M6061T6R0.750)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A

RELEASED
07.11.16

C	ADD -5	DC	07.09.19
B	3.475 WAS 3.400	PH	06.11.01
A	NEW ISSUE	PH	06.04.21
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DC		
CHECKED	PH	DRAWING NO.	REV. C
MFG. APPR.	PH	D3504	SHEET 1 OF 1
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	CROSS BOLT SPACER	NTS
DATE	07.09.19	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

NO. 257

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliot
Job number: B666P
Part number: D 135-751-011
Description: 135
Welding Process: Tig[☒] Mig[]
Base material: Aluminum
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Pat Lewis Date of Test Coupon 11-06-22

Welder Barclay Elliot Date of Test Coupon 11-06-22

The above named individual is qualified in accordance with AWS D17.1.2001 to weld